

CLAIMS

1. A process for creating, administering and operating traffic distribution maps of a mobile radiocommunications network, for deployment of radio coverage of a cellular telephone network, using an information system (1) storing data representative of geographical zones cut up into a plurality of points or pixels (301, 302, 303) according to the cutting of said network, of the data representative of the traffic in the radiocommunications network of subscribers to said network, wherein said data representative of the traffic in the radiocommunications network comprise quantitative and qualitative measurements of the traffic of the subscribers on the network, said measurements corresponding to at least one set time slot, said process comprising the following stages:
 - selection of at least one geographic zone by interactive means between the user and said system,
 - recovery (51) and utilisation by said system (1) of data representative of the traffic corresponding to said selected geographical zone and to a set time slot to form, by operating these data by the information system, at least one traffic distribution map (30) of the radiocommunications network.
2. The process according to Claim 1, wherein data representative of the traffic in the radiocommunications network comprise data supplied by counter means (4) and extracted from at least one supervision centre of equipment (OMC) by extraction and tabling means (10) of said information system (1).
3. The process according to Claim 2, wherein each geographical zone stored in the information system (1) corresponds to a plurality of series of quantitative and qualitative measurements of the traffic, each series of measurements corresponding to a different time slot, the sequencing of said series of measurements as a function of the geographical zones and the time slots being carried out by said extraction and tabling means (10) in respective

specific tables (221, 222, 223) stored in a memory (22) of the information system (1).

4. The process according to Claim 1, wherein said data representative of the traffic comprise the availability of the frequency range for each geographical zone, said quantitative and qualitative measurements of subscribers traffic comprising especially, for each geographical zone, for a set time slot:

- the average density of the traffic flow ($dmte$) at any point in the zone,
- 10 - the access blockage rate to the network ($tbar$) at any point in said zone.

5. The process according to Claim 4, wherein said quantitative and qualitative measurements of subscriber traffic further comprise, for each geographical zone, for a set time slot, the number of call starts (nda) at any point in the zone.

6. The process according to Claim 1, wherein said information system (1) calculates a level of value of the subscriber traffic (nvt) at any point of the selected geographical zone, said level of traffic value (nvt) being expressed in a traffic unit representative of the occupancy rate of radio resources, the pixels (301, 302, 303) being represented in said zone differently according to the level of value of the traffic flow for the pixel.

7. The process according to Claim 1, wherein a distribution map (30) of the radiocommunications network traffic stored by said information system (1) is coupled (53), in response to a selection made by interactive means (3) between the user and said system (1), to a first database stored in said system which comprises data representative of the estimated progress of the traffic inside each of the pixels, said system (1) selecting in said first database those data corresponding to said traffic distribution map (30) selected to calculate, by calculation means (11) of said system (1), the traffic to low inside each of the pixels (301, 302, 303).

8. The process according to Claim 7, wherein data representative of the estimated progress of the traffic correspond for each pix 1 (301, 302, 303) to a weighting function especially of service probabilities connected to the field level in the network, and the type of ground station, the information system (1) having an effect on and storing this weighting for each pixel (301, 302, 303).

9. The process according to Claim 1, wherein a distribution map (30) of traffic stored by said information system (1) is coupled, in response to a selection made by interactive means (3) between the user and said system (1), to a second database stored in said system (1) which comprises geomarketing data representative of geographical maps for weighting pixels (301, 302, 303) combined into contours, the weighting coefficient within the contours depending especially on service probabilities, functions of the field level in the network, and the type of ground station.

10. The process according to Claim 7, wherein a map of the traffic to flow (31) is generated by the calculation means (1) from operating and coupling data of the traffic distribution map (30) with the traffic progress data stored in a database (24) of the storage means (2).

11. The process according to Claim 10, wherein a modelling phase (61) of the radio coverage is parametered using data stored in the system (1), representative of at least one type of radio station and comprises the following stages which apply to the previously selected geographical zone:

- selection of data and parameters for determining the zone of radio coverage corresponding in a coverage file (26) of the storage means (2) of said system (1), said parameters comprising a coverage calculation step.
- meshing on said geographical zone selected from the coverage cells associated with said zone of radio coverage, so as to determine the traffic capacity within each cell.

12. The process according to Claim 11, wherein an identification stage of sub-zones to be compacted is made by the calculation means (11)

of said information system (1) as a result of the modelling phase (61) of the radio coverage, by comparison for each pixel (301, 302, 303) between the traffic data to flow and the data representative of the traffic capacity.

13. The process according to Claim 11, wherein an identification stage of network sub-zones to be compacted is made by the calculation means (11) of said information system (1) as a result of the modelling phase (61) of the radio coverage, by comparison for each contour between the traffic to flow and the traffic capacity, the difference between traffic to flow and traffic capacity exceeding a threshold set inside said sub-zones.

10 14. The process according to Claim 11, wherein an identification stage of sub-zones of excess capacity is made by the calculation means (11) of said information system (1) as a result of the modelling phase (61) of the radio coverage, by comparison for each pixel (301, 302, 303) between the traffic to flow and the traffic capacity.

15 15. The process according to Claim 12, wherein the difference between traffic flow and traffic capacity in a sub-zone is reduced by adjustment, addition or omission by the user of at least one piece of send/receive equipment located in the highest-performing cell, so-called main server, for said sub-zone, triggering reconfiguration of the modelling of the network on the information system (1) and storage of the corresponding modification.

20 25 16. An Information system (1) for implementing the process according to Claim 1, comprising storage means (2), selection means (12) and calculation means (11), said storage means (2) comprising in a first memory (21) data representative of geographical zones cut up into a plurality of points or pixels (301, 302, 303) according to the way said network is cut up and in a second memory (22) data representative of the traffic of a radiocommunications network with at least one set time slot for said network, wherein said system (1) comprises:

- interactive means (3) between the user and said system (1), connected to the selection means (12) for selecting and displaying at least one of said geographical zones,
- superposition means on said selected geographical zone of data representative of the traffic with a set time slot for forming at least one traffic distribution map (30), displayed by said Interactive means (3),
- extraction and tabling means (10), from data provided by counter means (4) and extracted from at least one supervision centre for equipment OMC), series of measurements as a function of the geographical zones and the time slots.

17. The Information system (1) of Claim 16, wherein said data representative of the traffic comprise the availability of the frequency range, quantitative and qualitative measurements of the subscriber traffic, said measurements including:

- the average density of traffic (dmte) at any point of the zone,
- the blockage rate of access to the network (tbar) at any point in said zone,
- the number of call starts (nda) at any point of the zone.

18. The Information system (1) of Claim 16, wherein said calculation means (11) are connected to the storage means (2) for calculating, from said data representative of the traffic, the value of the traffic flow at any point in a geographical zone selected by said selection means (12).

19. The information system (1) of Claim 16, wherein said storage means (2) comprise memories for storing respectively at least one file (23) containing geomarketing data, at least one file (26) containing data for determining the radio coverage of the network, at least one file (24) of data representative of the estimated progress of the traffic at any point or pixel (301, 302, 303) of the network, and at least one configuration file (25) comprising entry parameters acquired by the user by means of said interactive means (3), said geomarketing data comprising weighting elements

of each of the pixels (301, 302, 303), especially service probabilities, functions of the field level in the network, and different types of ground station.

20. The information system (1) of Claim 19, wherein said calculation means (11) are connected to extraction means (13) of the data of the file (23) of marketing data and/or of the file (24) of progress data on the traffic for calculating at any point of said selected zone the value of the traffic to flow, all the values of traffic to flow of the selected zone being stored in said storage means (2).

10 21. The information system of Claim 20, wherein said determination data of the network radio coverage comprise data representative of at least one type of station radio, said selection means (12) selecting those data representative of radio coverage zones and said entry parameters corresponding to the zone selected to allow the calculation means (11) to provide the traffic capacity at any point in said zone.

15 22. The Information system of Claim 21, wherein said calculation means (11) comprise a comparison module of the values between the traffic to flow and the traffic capacity, at any point in a zone selected by said selection means (12), allowing the network sub-zones to be compacted to be determined.

20 23. The information system of Claim 19, wherein said entry parameters acquired by means of a user/system interface of the interactive means (3) comprise especially a step of coverage calculation.